APES: Weather Webquest

Name_____ Date_____

Visit the Following Website:

Go to http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.rxml

Air Masses and Front Meteorology Guide

Click on Air Masses and Fronts (questions 1-2)

Click on Air Mass

1. What is an air mass?

2. Describe the location difference between maritime tropical air mass and a continental polar air mass?

Go back and Click on Fronts (questions 3-13)

3. Describe what a front is?

4. Fronts extend in the _____direction, but in the _____direction as well.

Click on cold front

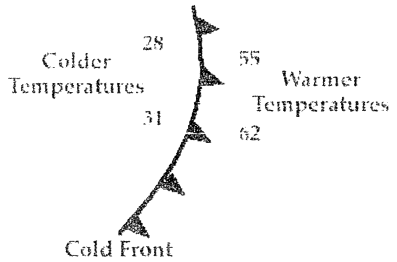
4. What is a cold front?

5. Cold fronts move from_____ to_____ direction.

6. Air behind a cold front is _____ and _____ than the air ahead of it.

7. When a cold front passes through, the temperature will _____(increase or decrease)?

8. Draw an arrow below to show the direction of a cold front



Click on warm front

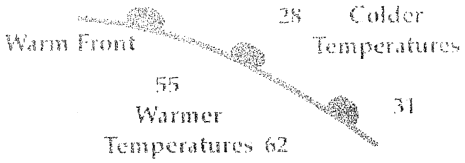
9. What is a warm front?

10. Warm fronts move from_____to _____ direction.

11. Air behind a warm front is _____ and _____than the air ahead of it.

12. When a warm front passes through, the air becomes _____ and more____ _____ than it was before.

13. Draw an arrow below to show the direction of a warm front



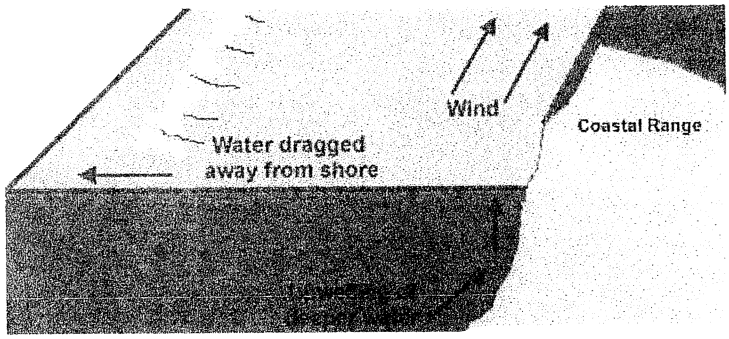
<u>Go back to home page and click on El Nino (questions14-17)</u>

14. What is El Nino? How often does it occur and where?

15. Trade winds generally drive the surface waters _____.

16. There is a dramatic reduction in _____.

16. Describe what is happening in the picture below. These upwellings become suppressed during an El Nino.



Name: _____ Date: _____ Period: _____

Forces and Wind: Online Meteorology Guide

From opening paragraph (question 1):

1. What is air pressure?

Click on "pressure"(questions 2-6)

2. "If the number of air molecules above a surface increases, there are more molecules to exert a force on that surface and consequently, the pressure _____ (increases or decreases)?

3. What device is used to measure atmospheric pressure?

4. What unit of measure does aviation and television weather reports use for pressure?

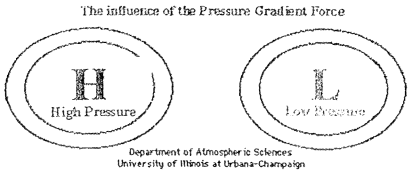
5. What unit do meteorologists use?

6. What is the average pressure at sea level (in millibars)?

Go back and click on "Pressure Gradient Force" (questions 7-9)

7. The pressure gradient results in a net force that is directed from _____ to _____ pressure and this force is called the "pressure gradient force".

8. Draw an arrow showing the direction of force:

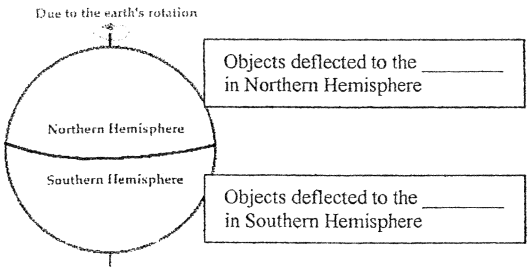


9. What is responsible for triggering the initial movement of air?

Go back and click on "Coriolis Force" (questions 10-16).

10. What causes the "Coriolis Force"?

11. Draw arrow to show the pathway of deflected wind in the diagram below. Fill in the statements to the right.



12. Slowly blowing winds will be deflected only a _____ (small or large) amount.

13. Stronger winds will be deflected a _____ (small or large) amount.

14. Winds blowing closer to the poles will be deflected _____ (more or less) than winds at the same speed closer to the equator.

15. What is the influence of the Coriolis force right at the equator?

16. Watch the "Real Life" Example Movie. Record your observations:

Go back and click on "Sea Breezes" (questions 17-).

17. What is a sea breeze? When do they usually occur? Why?

18. Draw an arrow showing the direction of the wind:

Sea Breeze

19. Which warms more rapidly: a large body of water or the land?

20. What is a "land breeze"? When do they usually occur? Why?

21. Where are "land breezes" the strongest?

22. Draw and arrow on the diagram below showing the direction of the wind:

Land Breeze

23. Which cools more rapidly: air over land or air over water?